The Language-Handicapped Child

Coordinated Evaluation by Physicians and Educators

W. J. WEDELL, *M.D.*, E. A. LOWN, *M.A.*, and RUSS CONNOR, *M.A.*, San Francisco

• **Seventy children were studied during 1959 in a special school program because of major language problems. A team of medical and educational personnel studied each child during a ten-day school enrollment. The results of the medical and educational studies were of great value in establishing the correct diagnosis and devising a suitable educational program for the children.**

SINCE SEPTEMBER 1946, the School for Cerebral Palsied Children, Northern California, has been operating as a part of the Bureau of Special Education of the California State Department of Education. During its first ten years of operation, several members of the staff had the opportunity to study and deal with the various speech and language problems of the cerebral palsied children. In the early years of the School program, most children were admitted because of the extent or degree of their physical handicap and it was felt that an intensive program for a few months would significantly accelerate their physical or educational habilitation.

In the past few years numerous excellent classroom programs for children with cerebral palsy and other similar handicaps have been developed throughout the state. There are currently 56 special programs, which are operated by the local school districts, for approximately 3,000 children. Although these new programs are doing a very commendable job, they often seek help, especially for the children with mild physical problems but with major problems relating to speech, language and learning. The children who also have multiple handicaps involving vision and hearing require special studies and care.

In response to many requests for help with complicated language problems, the School started a pilot project of speech and language disorders in September 1956. The children with language problems were enrolled in one of the classrooms and, after the initial diagnostic studies, selected children were enrolled for extended training in speech and language. In the following two years, 93 children were studied and special recommendations were made.

In January 1959, the Residence School was approved as a center for the diagnosis of neurologically handicapped children under the Crippled Children Services of the State Department of Public Health. During the year 1959, seventy additional children were studied at the School because of neurological and language problems. This communication is a review of the current method of operation of the language program and some of the medical and educational problems presented by the language-handicapped child.

Philosophy of a Medical-Educational Team

In the diagnosis and treatment of language disorders in children, it is obvious that a multiprofessional approach is advisable. The different hearing, speech and language centers throughout the country have widely different standards for the diagnostic team, particularly for the medical aspects of the problem. In some language centers, only one physician is on the team while other centers may have two or three physicians see the children. In our program, the early medical team consisted of a pediatrician and a neurologist. It soon became evident that additional medical evaluation was necessary for almost every child with a significant language problem. Consequently, an ophthalmologist, an otolaryngologist and a child psychiatrist were added to complete the medical team. The educational members of the team consist of a qualified audiologist and speech therapist, a psychologist, a medical social worker and a teacher experienced in elementary school education as well as in special education. Our experience with children with language handicaps indicates that an integrated medical and educational diagnostic study is essential in order to establish the likely diagnosis and to make an intelligent and realistic recommendation for the child.

From the Diagnostic Center for Neurologically Handicapped Children, Bureau of Crippled Children Services of the California State Department of Public Health and the Medical-Educational Diagnostic Center, School for Cerebral Palsied Children, Northern California, San Francisco 27.

Neurological Consultant and Coordinator. Associate Research Neurologist, University of California School of Medicine (Wedell); Superintendent, School for Cerebral Palsied Children, Northern California, San Francisco 27 (Lown).

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Method of Study

The children with major language problems were first evaluated by their local physician or pediatrician. Those whose primary problem seemed to be mental retardation or epilepsy were not accepted for extensive study. The children whose language disorder seemed referable to a neurological disorder were subsequently enrolled in the School for Cerebral Palsied Children for more complete evaluation. Previous medical studies and hospital reports were obtained whenever possible to avoid reduplication of studies. The evaluation of the medical and educational problems is conducted during a two-week period of school enrollment. During the first week, the child is in the classroom except for the time involved in the various medical examinations and laboratory tests. During the second week, the additional studies regarding education, psychology and language are completed. After ten days, a staff conference reviews the pertinent medical and educational findings with representatives of the local health and educational facilities as well as with the parents. The goal is to find the most appropriate program for the child for the forseeable future of one to two years.

Results

The 70 children dealt with during the past year had the most extensive studies and will therefore be reported upon. In the previous group of 93 children, however, although the clinical observations were the same, some of the special consultations and laboratory tests such as x-ray or electroencephalographic examinations were not done.

Source of Referrals

Only two of the children examined were from San Francisco since the School's facilities are primarily for children from smaller communities where extensive medical facilities are lacking. Most of the children were from the eight counties surrounding San Francisco Bay, although several children were from the smaller communities in the San Joaquin and Sacramento valleys.

The children ranged in age from 3½ to 15 years. Thirty-nine of them were from 3½ to 6, 22 from 6½ to 9, and 9 children from 9½ to 15 years of age. The children in the youngest group were referred primarily through medical channels, the oldest group primarily through educational channels. The numbers of children of various ages are shown in Table 1.

Neurological Findings

Although the children were seen primarily for language problems, three of the children had very gross neurological impairment such as hemiplegia or spastic paraplegia. Nine of the children also had mild but obvious neurological involvement of the neuromuscular system such as mild hemiplegia. The most interesting finding in the children was not the obvious gross neurological deficit but the nonspecific awkward and clumsy coordination problem which was evident in the hands as well as in the lower extremities.

TABLE 1.—*Number of Children of Various Age Groups in Present Study*

Age (Years)	No.	Age (Years)	No.	Age (Years)	No.
3½	3	6½	5	9½	1
4	4	7	4	10	0
4½	7	7½	3	10½	2
5	5	8	4	11	1
5½	11	8½	1	11½	0
6	9	9	5	12	0
	—		—	12½	1
	39		22	13	0
				13½	2
				14	1
				14½	0
				15	1
					—
					9

Neurological examination of the cranial nerves was at times difficult in these children with little or no speech, and they were at times uncooperative. Simple modifications of the routine examination would often give extremely valuable information. Visual acuity could be adequately evaluated by the use of various sizes of colored candy beads. These varied in size from 1 mm. up to the larger pieces—discs about 1 cm. in diameter. The sight of the candy quickly activated the eye-hand-mouth pattern which gave the opportunity to also evaluate ataxia and other coordination problems. The use of small finger puppets was most satisfactory in evaluating visual field defects or hemianopsias. Evaluating the degree of dysarthria was difficult in the children, particularly in the youngest group. In the older children, articulation could be more adequately evaluated with the longer words, connected speech and finally test phrases for articulatory disorders. Observation of the child for drooling, for tongue control and for ability to lateralize the tongue also gave information regarding speech.

The motor system in the children without gross neurological findings was extremely interesting. The parents, school teachers and other observers almost invariably noted the awkward, clumsy problem regarding the fingers. These findings were very evident with the handwork in the School program even as low as the nursery school level. It was more evident in the kindergarten and first grade hand activities. The finger coordination problem could be demonstrated and the evidence reinforced by the

standard tests of performing finger-to-finger coordination. The lower extremities could best be evaluated not only by watching the gait but by having the child run. It was also of interest to observe the child climbing and descending a flight of stairs and the large number that still required the hand railing for support or would not alternate their feet in the usual manner.

In most of the children pathological reflexes were demonstrated. There was often a gross inequality of the reflexes. A very high number of children obviously had a positive Babinski reflex. A surprisingly large number also had grasping reflexes or positive Wartenberg reflexes in the upper extremities.

Sensory examination was sometimes difficult in the children, particularly the young group. However, often one hand was larger than the other, with a problem of astereognosis involving the small hand.

The consulting ophthalmologist examined 52 children. Significant abnormalities other than refractive errors were present in 18 of them. Extensive hearing studies were done in all children. One was deaf, with a hearing loss so severe that he was not expected to develop language even with amplification. Nine of the children had significant hearing losses but could hear adequately with the use of amplification.

Electroencephalographic studies were performed on 60 children. There were 33 obviously abnormal records, most of them indicating generalized paroxysmal dysrhythmia. Several of the records also showed focal disorders. Four of the 60 children were so uncooperative that records could not be obtained in spite of the use of medication.

Other laboratory studies which gave significant information included x-ray films of the wrist for bone development, which revealed major retardation in five children. One of the children had clinical manifestations of phenylketonuria, which was confirmed by urine and blood studies for phenylalanine.

Psychological studies were done on all children. A battery of studies was performed, including the Wechsler Intelligence Scale for Children, Columbia Mental Maturity Scale and the Ammons Full Range Picture Vocabulary Test. Other studies were the Goodenough Draw-A-Man, the Ravens Progressive Matrices and the Bender-Gestalt. The range in mental ability is shown in Table 2.

All children and at least one parent were seen by the child psychiatrist. Most of the children had problems of behavior, as well as of speech and language, and had aroused considerable anxiety, confusion and uncertainty in the parents. The psychiatrist was helpful in differentiating the primary emotional problems from those that were secondary to the organic clinical condition. Of the 70 children, it was felt that only 3 or 4 had severe primary emotional problems.

TABLE 2.—*Mental Ability of Children in Present Study

Total number studies	70
Very superior	0
Superior	1
Bright normal	4
Average	9
Dull normal	12
Borderline	12
Below borderline	32
Total number diagnosed as having an aphasic problem	28
Expressive type	4
Receptive type	0
Mixed	23
Undetermined	1

*Made on basis of Wechsler Intelligence Scale for Children ratings.

Recommendations

After the diagnostic studies were completed, recommendations were made depending upon the age of the child and the entire clinical picture. Several children were referred to special classes for children with hearing problems where special help was available. A considerable number were in classes for slow learners or for the mildly retarded. A few of the children continued in regular classroom programs with additional help and speech therapy. Six of the children were able to attend a special class for language-handicapped children which was activated in September 1959 in the Berkeley school system.

Department of Neurology, University of California Medical Center, San Francisco 22. (Wedell).

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